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APPARATUS FOR TREATING INSECTS WITH CONTACT DUSTS

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Insect Investigations

A simple apparatus used to treat flea beetles with contact dusts is shown in the diagram (fig. 1).

A glass lantern globe, which served as a cage to confine the beetles, was covered with a piece of rubber dam attached with a rubber band during the introduction of the dust. As soon as the dust cloud had settled, cheese cloth was substituted for the rubber dam. The lantern globe was held in place on the board and leakage was avoided by sealing with asbestos furnace cement.

Accurate quantities of finely ground, free-flowing dusts can be introduced into the lantern globe with excellent distribution by means of the atomizer shown in figure 1, provided that the apparatus is absolutely dry. Slow, careful manipulation of the bulb is necessary for the best results.

Weighing the dust charge may be facilitated by placing a tube containing the dust upon the balance pan, held in an upright position in a small block of wood with a one-half inch hole, and counteracting the weight of the tube and block by means of a weight in the other pan. The dust can be introduced into the lantern globe cage with very little loss, provided that the glass tube and rubber tubing leading to the cage are tapped lightly during the introduction process. For comparative toxicity experiments, a series of cages may be placed conveniently upon a board of the proper length, as shown in the photograph (fig. 2).

The apparatus described is especially suitable for treating flea beetles with contact dusts. All other apparatus previously tested either confined the insects too closely or allowed large errors in dosage. The loss of dust through screen wire cages was especially apparent.

The tobacco flea beetles used in the experiments crawled about the floor and sides of the lantern globe cage, the majority remaining in the lower half. A piece of green tobacco leaf about 1 inch square, to serve as food, was placed in the cage after the introduction of the dust charge.

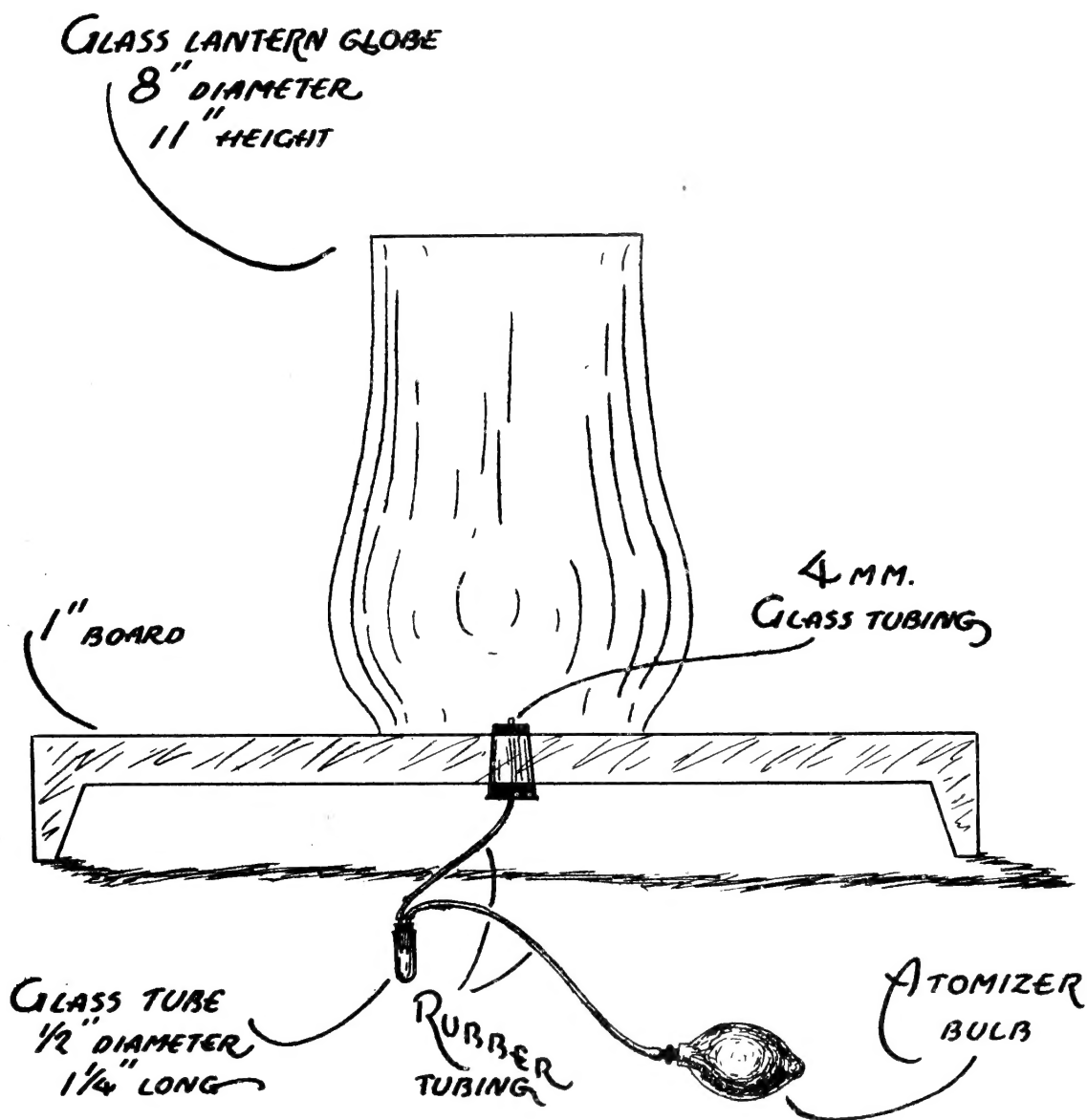


Figure 1.--Diagram of apparatus for treating insects with contact dusts.

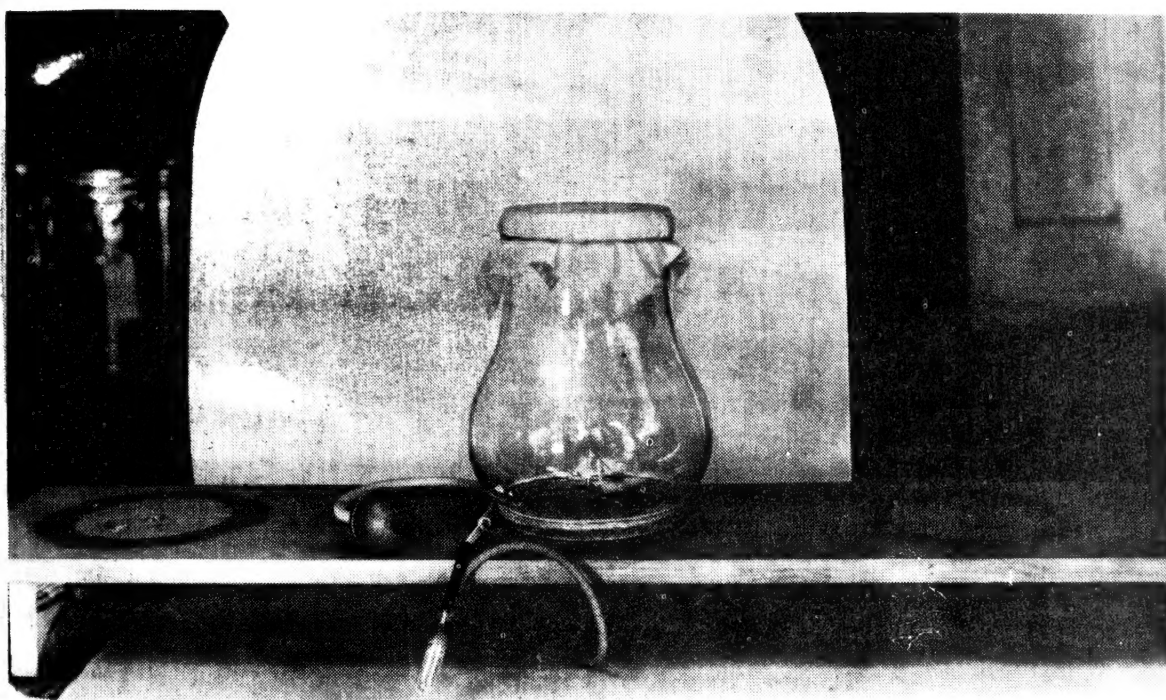


Figure 2.—Photograph of apparatus for treating insects with contact dusts.

